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THE SILENT PERIL: CHALLENGES IN DIAGNOSIS AND MANAGEMENT OF PENETRATING AORTIC ULCERS: A CASE REVIEW

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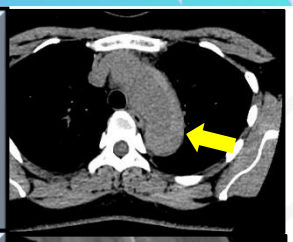
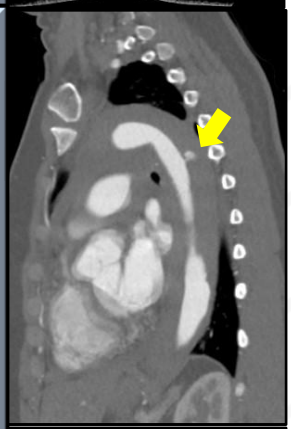
INTRODUCTION

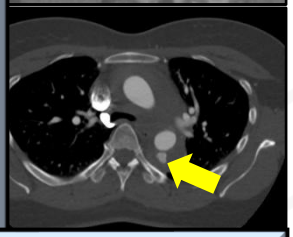
Penetrating aortic ulcers (PAUs) are a rare, life-threatening form of acute aortic syndrome. Unlike aortic dissection, PAUs are under-recognized in emergency setting. We present a unique case of complicated PAUs, in a middle-aged lady who presented with hyperventilation.



CASE DESCRIPTION

A 45-year-old female with long-standing uncontrolled hypertension, presented with sudden, localized suprasternal pain and acute dyspnea while teaching. She was hyperventilating and in pain, with carpopedal spasm. Her vital signs: BP 194/111mmHg, PR 90/min, RR 28/min, SpO_2 100%, afebrile, PS 9. No neck swelling, no chest wall tenderness, and other physical examinations were unremarkable. Bedside ultrasound showed minimal pericardial effusion, no aortic root dilation, and normal lung sliding. Chest X-ray was normal. Her symptoms persisted despite analgesia and blood pressure remained elevated, thus a CT scan was performed. CT angiogram of aorta revealed PAUs with extensive intramural hematoma, the largest at the aortic arch, with features of impending rupture. BP control was challenging, despite maximum IV labetalol infusion and oral antihypertensives. IV glyceryl trinitrate infusion was added, leading to better control. She was admitted to ICU before transfer to a vascular centre, where she successfully underwent a thoracic endovascular aortic repair (TEVAR)





DISCUSSION

PAUs account for 5-10% of acute aortic syndromes, mimicking aortic dissection[1]. They result from ulcerated atherosclerotic plaques penetrating the intima, leading to intramural hematoma or aortic rupture[2]. PAUs often present with atypical chest pain and hypertension. This case highlights **(i)** initial assessments may be non-diagnostic in acute aortic syndromes; persistent focal pain warrants for CT angiography; **(ii)** Presence of pericardial effusion should heighten suspicion for aortic disease when no alternative explanation is found; **(iii)** patient's hyperventilation syndrome risked anchoring on functional/anxiety diagnosis, thus the need to maintain vigilance for life-threatening causes. Management requires strict BP control (SBP <120 mmHg) with beta-blockers, adding calcium channel blockers or vasodilators if needed, while maintaining a target HR~60/min to reduce aortic shear stress. TEVAR is recommended for large, symptomatic, or impending rupture cases[1,2].

CONCLUSION

Early recognition of PAUs is crucial and requires a high index of suspicion. Timely CT angiography, strict blood pressure control, and TEVAR for high-risk cases improve outcomes and prevents life-threatening complications.

REFERENCES

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